

Jastrow, Joseph

Laura Bridgman and Helen Keller



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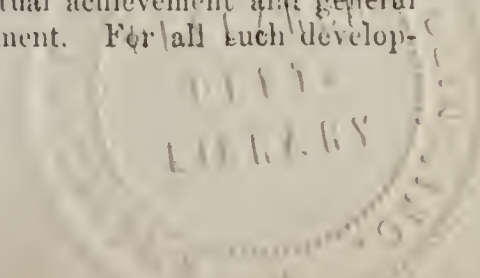
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BRAMANTIP — BRIDGMAN AND KELLER

Jastrow, J.

Bridgman, Laura, and Keller, Helen.
Two blind deaf-mutes born and educated in the United States.

A psychological study of the blind deaf-mute may contribute largely to an understanding of the relations of the senses to one another, and of the relation of sense endowment to intellectual achievement and general mental development. For all such develop-





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ment language is of fundamental importance, serving as it does as the most effective channel of communication, and as an aid to and medium of rational operations and of human sympathy. For the blind the oral forms of communication and the direct appreciation of sounds, supplemented by the significant experiences of touch and movement, furnish the materials for the elaboration of a psychic life differentiated from that of the seeing only by limitations of experience, the effects of which are not easy to describe or detect. For the deaf, even if dumb, the same service is as successfully, though very differently, performed by the world of letters and of art and by the visual interpretation of expression and conduct. In both, imitation, though restricted, is still a potent and comprehensive instructor. When both defects concur in the same individual the psychological status is decidedly altered. Such persons are dependent for all possibilities of communication and education upon the tactual-motor group of sensibilities and modes of expression; for it is legitimate in this connection to ignore, not wholly, but nearly so, the sense avenues of taste and smell. That the tactual-motor senses may successfully and adequately serve as avenues of approach to a rich intellectual life is proven by what has been accomplished in the instruction of blind deaf-mutes. Of such Laura Bridgman and Helen Keller form the most notable instances.

The significant facts regarding Laura Bridgman are as follows. She was born in possession of the full quota of senses on December 21, 1829, into a farmer's family at Hanover, New Hampshire. She is described as a precocious child who had acquired a considerable stock of words, when just after her second birthday she was stricken by a serious attack of scarlet fever. She remained for two years in a feeble condition; her hearing was totally gone, and though slight traces of vision remained for a time, these had disappeared when her education was begun by S. G. Howe in 1837. Taste and smell were also markedly blunted. During the years preceding her education she had used a very limited number of rudimentary natural signs to indicate her most pressing wants, and had been taught to knit and to sew, and to perform simple household duties. Howe began her instruction by pasting raised letters upon simple objects, such as a key, a spoon, a fork, a mug, and establishing by repeated feeling of the letters and the objects an associa-

tion between them; from the word symbol he passed to letter symbols, using the raised letters on a movable board. Words could thus be formed, e.g. p-i-n for pin, and p-e-n for pen, and the objects corresponding to the name be produced and felt, the shapes and uses of the object being already familiar. It was only after weeks of persistent practice at this puzzle or game-like performance that his pupil grasped the idea that the letters could be used as the names or symbols to stand for and in place of the objects. Then followed more easily, but still slowly, the signs of the manual alphabet (the signs being made in the child's palm, and followed and repeated by her fingers), then writing, and reading raised print and ordinary writing; and the path of education thus opened, though necessarily a slow one, was limited only by the general mental endowment and persistency of the pupil. At first nouns, then simple verbs and adjectives, were acquired, until a considerable vocabulary had been formed; each addition at first requiring to be illustrated or interpreted directly or indirectly into tactual-motor terms. 'Door open' and 'door shut,' 'light' and 'heavy,' 'large' and 'small,' 'rough' and 'smooth,' 'cold' and 'warm,' 'stand' and 'sit,' 'walk' and 'run,' 'in' and 'out,' 'above' and 'below,' and so on, were taught by associating the action or position or contrast of sensible qualities in the objects with the words as formed by the shapes of the component letters. When once reading was begun, the possibilities of information were extensively widened, and her mental processes participated more largely in the steps of normal acquisition.

Miss Bridgman lived to be sixty years old, passing her days uneventfully, but in the enjoyment of a moderately full intellectual, emotional, and moral life. Her tastes were simple and domestic, and needlework occupation filled much of her time. Quite naturally, for one largely dependent upon literature for language forms, her language, both spoken and written, reflected its book origin, and was rarely of a conversational type; her early stages of language acquisition were particularly significant as illustrations of thought processes in blind deaf-mutes and of their development. Neither brilliant nor markedly original, she acquired a fair acquaintance with literature, and aspired to some attempts at authorship; these are dominated in the main by a conventional religious sentiment. She conducted an extensive correspondence, and

prepared autobiographical accounts of her experiences before instruction, and an interesting diary. She was never taught to speak, although she constantly made noises and attempted to develop her power of utterance. Her brain was made the subject of a detailed examination (see the paper by Donaldson, as cited below).

Helen Keller was born June 27, 1880, at Tusculum, Alabama. Her ancestry on both sides is not without distinction: her father, Major A. H. Keller, held responsible political offices. Born with all her senses intact, she was deprived of sight and hearing, and totally so, by a serious illness which befell her at the age of eighteen months. Her other senses remained unimpaired. She has the enjoyment and advantage of a keen sense of taste and smell, and her physical health has always been excellent. Her education was begun in February, 1887; during her first seven years she had acquired a considerable knowledge of objects and their uses, but the only means of influencing her or interpreting her wants was by a limited group of natural signs and gestures. The precocity, persistency, and general mental alertness which she has continued to exhibit to a remarkable degree were probably influential throughout her early childhood. The first steps in language taken by her able teacher, Miss Sullivan, were similar to those used with Laura Bridgman, but the alacrity of her pupil, the readiness with which she grasped the notion that all things had names, and that these names could be indicated by movements of the fingers, rendered unnecessary many intermediate stages. Progress which in the case of Laura Bridgman was measured by days and weeks, was made by Helen Keller after hours, or at most within a few days. Thus she had soon acquired a considerable vocabulary, and was able to form simple sentences and to receive and transmit communications. In 1890, in response to her repeated requests, she was taught to speak orally, the method consisting in allowing her to feel the lips and throat of the speaker, and in directing her to place her own organs in the same position and to utter the sounds. By the guidance of this muscular sense she has acquired a facility and clearness of utterance that compares favourably with that of the seeing deaf. Within three weeks after her first lesson in oral speech (March 26, 1890), she gave clearly, in an audible voice, an account of her visit to the poet Holmes. Since then she has evidenced an

unusual linguistic and literary ability; she reads raised print fluently, writes and reads the Braille point for the blind; has a creditable knowledge of French and German, as well as of Latin and Greek. Besides writing in ordinary script, she uses a typewriter skilfully, and even one fitted with Greek characters. Her knowledge of literature is extensive, and her memory for what she has read unusually retentive. She is quick in apprehending, most tenacious in remembering, and assimilates with ease and insight; her imagination is active, and expresses itself with aptness and originality. An acquaintance with her extensive correspondence, with the accounts of her doings and studies, and her original stories is necessary to appreciate the significance of these characterizations. Her studies at the present time include the full curriculum required for entrance to Radcliffe College (Cambridge, Mass.); and in a portion of these studies (elementary and advanced German, elementary French, Latin, Ancient History, English) she passed the examinations in 1897, and took honours in English and German. While her talents are largely in the direction of language and literature, and while she confesses to a considerable difficulty with mathematics, her ability estimated without regard to the inherent difficulties of her acquisition is more than creditable to her years, and gives promise of an unusual intellectual career.

It would be premature to attempt any general or final deductions from the facts thus outlined; but it may be of value to illustrate the nature of the psychological principles which they suggest. The most comprehensive principle is that the mental training and culture resulting from the assimilation and elaboration of ideas is measurably independent of the sensory means by which the materials for these are furnished: the edifice does not reveal the nature of the scaffolding. The processes of gaining information may be slow, circuitous, and awkward, but the acquisition once formed is normally complete and correct. And yet this is but moderately true; our senses are more than a scaffolding to knowledge, and the edifice manifests all the characteristics of a continuous organic growth. The mental canvas, though conveying a similar impression, is not suffused with the glow of vivid life-likeness, with the warm and rich reality of experience. The normality of the intellectual life of a gifted blind-deaf person is largely the resultant of

the community of expression with that of the seeing and hearing. The same language is used, but the richness of the verbal associations, their colour and flavour, must inevitably be paler and more meagre, and in certain directions defective or false. The community of language conceals the differences of psychological processes, for which, however, we have no other adequate expression. This 'literary' tone of thought and memory, of imagination and application, is unmistakably reflected in the writings and conversation of Helen Keller.

One great advantage of sight in intellectual acquisitions is the relatively large horizon which it encompasses. Quite a numerous group of impressions are grasped at a glance, and in so far as necessary may be focussed for a longer period, and may be reseen and re-read *ad libitum*. Appeals to the ear are momentary, and their renewal, though easy, requires a repetition of the entire process. This disadvantage is very much more emphasized for the tactual-motor senses. If one considers the difficulties of studying geometrical problems when the outlines of the figures can only be felt point by point, or of solving algebraic problems without constant recourse to the portion of the problem already worked, the significance of this distinction will be sufficiently manifest. For those with a full quota of senses the scope of 'mental arithmetic' is ordinarily ludicrously small as compared with their powers to manipulate with written symbols. The 'mental' nature of the processes in Helen Keller may in part account for the remarkable retentiveness and scope of her memory. In these and many other respects the study of the blind deaf contains possible contributions to our understanding of psychological processes both in the normal and in the defective.

Literature, on Laura Bridgman: LAMSON, Life and Educ. of Laura Bridgman (1881); S. G. HOWE, in the successive Reports of the Perkins Institute, Boston; Laura Bridgman (Boston, 1890); HALL, in Mind (1879), also in Aspects of German Culture (1881), 237-77; SANFORD, Writings of Laura Bridgman, Overland Mo. (1887); DONALDSON, Amer. J. of Psychol., iv; JERUSALEM, Laura Bridgman, Eine psychol. Stud. (1891). On Helen Keller: Helen Keller, a Souvenir, published by the Volta Bureau, Washington, 1892; second Souvenir, 1900; ANAGNOS, in Reports of the Perkins Institute, Boston, 1888, 78-107; 1889, 67-138; 1892, 52, 302; ANAGNOS, Helen Keller (Boston, 1889); GLENA,

Helen Keller (Genève, 1894). Among the large number of brief accounts the most noteworthy are: McFARLAND, Helen Keller, a Psychological Study, in Proc. of the Amer. Assoc. to Promote the Teaching of Speech to the Deaf (1894); SULLIVAN, The Instruction of Helen Keller, *ibid.* (1894); JASTROW, Psychological Notes on Helen Keller, Psychol. Rev. (1894), 356; CHAMBERLAIN, Helen Keller as she really is, Ladies' Home J. (1899), also in Ann. of the Deaf; FULLER, How Helen Keller learned to speak, Amer. Ann. of the Deaf (January, 1892); DANGER, Dreisinnige, in Die Kinderfehler (1899). (J.A.)

Brightness: Ger. (1) *Helligkeit Intensität der Lichtempfindung*; Fr. (1) *intensité d'éclairage* (or *luminosité*); Ital. (1) *chiarezza, intensità luminosa*. (1) The intensity of any visual impression, whether of brightness in the sense below, or of colour, or of the two together. This is the common meaning. Cf SATURATION.

(2) The quality or component of visual sensation correlated, on the physical side, with light mixed in the proportion in which it comes to us from the sun, or with mixtures of homogeneous lights that are psychologically equivalent to this; the quality of black, grey, or white; the colourless quality. (E.H.T.—C.L.F.)

By a slight extension of the meaning of grey (so as to take in, in accordance with custom in the exact sciences, the end-members of the series, black and white) this quality may be called greyness, and thus confusion with the usual meaning of brightness may be avoided. (C.L.F., J.M.B.)

For 'brightness' in the qualitative sense the word 'light' is sometimes used. But light is the physical correlate of all visual sensations that are normally aroused; and, as the term 'intensity' is current in psychophysics, it is possible to employ 'brightness' for the black-white qualitative series (Ger. (2) *Helligkeit* and *Helligkeitsunterschiede*, *Schwarz-weiß-Reihe*, *neutrale Farbe*; Fr. (2) *sensation de la lumière*, or *sensation lumineuse* (*incolorée* or *achromatique*; opp. to *sensations des couleurs*; Ital. *sensazione di luce* (or *luminosa*) *acromatica*), and 'intensity' for the strength of brightnesses and of colours alike. See Visual Sensation under VISION. (E.H.T.)

Brown, Thomas. (1778-1820.) A Scotch metaphysician and physician. Educated at Edinburgh, he was a pupil of Dugald Stewart, and published a refutation of Erasmus Darwin's *Zoönomia* before receiving the degree

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